

## REMARKS

Claim 64 has been amended and claims 64, 81 and 82 have been cancelled without prejudice. No new matter has been added by virtue of the amendments.

The only outstanding rejection is of claims 64-92 under 35 U.S.c. 103 over Singhvi et al. (U.S. Patent 6,368,838) in view of Dewez et al. (WO 96/15223).

In the Office Action, the position is taken that Singhvi discloses a device having cytophilic islands for adhering cells and cytophobic regions which isolate the cytophilic islands. The Examiner cites Dewez as disclosing a biomaterial for selective adhesion of cells or tissue, which contains a polymeric support having a heterogeneous surface conditioned with a surfactant and an extracellular matrix protein.

In the Office Action, it is also asserted that it would have been obvious to provide the cytophilic islands of the device of Singhvi with extracellular matrix protein to enhance the binding of cells as suggested by Singhvi et al and Dewez and it would have been obvious to provide the cytophobic regions of Singhvi with a surfactant to inhibit binding of extracellular matrix protein to these regions as suggested by Dewez.

In the Office Action, the unsupported statement is advanced that the conditions of dependent claims would have been matters of obvious choice within the skill of the art in view of the disclosures of the references.

Applicants respectfully traverse the rejection.

In Singhvi, cytophobic regions are created by SAMS. Singhvi does not disclose or suggest the use of surfactants to create cytophobic regions.

While Dewez does disclose the use of surfactants to create cytophobic regions, Dewez employs plasma treatment to modify the surface of the substrate and Dewez provides no reasonable expectation of success that that a surfactant could be used on an untreated surface to provide cytophobic regions. Thus, Dewez also provides no motivation to modify the surfaces of Singhvi to include a cytophobic region which is a surfactant as Dewez would not lead one to expect that surfactants would adhere without a prior plasma treatment step.

Additionally, Singhvi's method simply would not work using a polymeric material as claimed in Applicants' independent claim 64 (the only pending independent claim), as SAMS require a metal substrate. Thus, the references in combination do not result in Applicant's claimed invention. Further, microfluidic patterning offers the potential advantage that a number of networks can be accessed separately--i.e. one network can be perfused with one cell type while the adjacent network can be used to localize a distinct cell type or chemical species. See page 30, lines 2-5 of the application.

In the Office Action, it is stated (page 5):

Singhvi et al disclose various shapes and patterns, and to provide a microfluidic channel would have been obvious for continuous passage of a fluid over cells contained by the device.

Respectfully, that position does not withstand scrutiny. Simply no disclosure has been cited for any type of microfluidic channels. ."). See Section 2143.03 of the Manual of Patent Examining Procedure ("To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.").

In view thereof, reconsideration and withdrawal of the rejection are requested.

It is believed the application is in condition for immediate allowance, which action is earnestly solicited.

Respectfully submitted,



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